

Notice of Allowability

Application No.

10/052,232

Examiner

Lynda M Salvatore

Applicant(s)

MAGILL ET AL.

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1771

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 07/13/04.
2. ☒ The allowed claim(s) is/are 1-67.
3. ☒ The drawings filed on 01/15/02 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
 - * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

EXAMINER'S AMENDMENT

Please amend the specification by deleting paragraphs 0001 and 0002 and replacing such with the following:

[0001] This application is a continuation-in-part of patent applications of Haggard, entitled "Temperature Adaptable Textile Fibers and Method of Preparing Same", U.S. Serial No. 09/691,164, filed on October 19, 2000 now abandoned, and Magill et al., entitled "Multi-component Fibers Having Enhanced Reversible Thermal Properties", U.S. Serial No. 09/960,591, filed on September 21, 2001 now abandoned, which claims the benefit of U.S. Provisional Application Serial No. 60/234,410, filed on September 21, 2000, the disclosures of which are incorporated herein by reference in their entirety.

[0002] The present invention is related to the inventions disclosed in the copending patent applications of Hartmann, entitled "Stable Phase Change Materials For Use In Temperature Regulating Synthetic Fibers, Fabrics And Textiles", U.S. Serial No. 09/960,901, filed on September 21, 2001 now US Patent 6,689,466, and Hartmann et al., entitled "Melt Spinnable Concentrate Pellets Having Enhanced Reversible Thermal Properties", U.S. Serial No. 09/777,512, filed February 6, 2001 now US Patent 6,793,856, the disclosures of which are incorporated herein by reference in their entirety.

DETAILED ACTION***Response to Amendment***

1. Applicant's amendment and accompanying remarks filed 07/13/04 have been fully considered and entered. Claims 1,24,28-29,31-32,40,44-50,54,57-60 and 63-66 have been amended as requested. Applicant's amendments are found sufficient to overcome the inherency rejections of claims 1-9, 24-26,28-30, 33-45, 48-56, 58, and 60-64 rejected under 35 U.S.C. 102(b) as being anticipated or, in the alternative, under 35 U.S.C. 103(a) as obvious over by Tanaka et al., US 5,153,066 as set forth in sections 5 and 7 of the last Office Action. As such, these rejections are hereby withdrawn. Applicant's amendment's are now found sufficient to patentably distinguish the instant claims over the prior art made of record and Applicant's arguments are found persuasive of patentability for reasons set forth herein below.

Allowable Subject Matter

2. The following is an examiner's statement of reasons for allowance: 1-67.

With regard to independent claim 1, Applicant amended said claim to recite the limitation of "wherein the polymeric phase change material provides thermal regulation based on at least one of the melting and crystallization of the polymeric phase change material at the transition temperature". The relied upon prior art of Tanaka et al., teaches microencapsulating a temperature sensitive color changeable material and embedding said microcapsules into the core polymer of a conjugate filament (Abstract, figures 1-6 and Column 1, 59-63). In this instance, the Examiner interprets claim 1 to mean a phase change material, which provides thermal regulation (i.e., heat, cold, humidity insulation, etc.) rather than a phase change material which forms, changes or losses color by

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temperature change. For these reasons, claim 1 and dependent claims 2-9 are found allowable over the prior art of Tanaka et al.

With regard to independent claim 10, as previously set forth in section 8 of the last Office Action, the Examiner indicated claim 10 as allowable subject matter. Specifically, the prior art made of record failed to teach a multi-component fiber having a first elongated member comprising a first polymeric material and a first temperature regulation material dispersed within the first polymeric material and a second elongated member comprising a second polymeric material and a second temperature regulation material dispersed within the second polymeric material. Claims 11-23 depend from claim 10 and thus are found allowable over the prior art of Tanaka et al.

With regard to independent claim 24, Applicant amended said claim to include limitations from previously allowed dependent claim 31. Specifically, claim 24 presently recites the limitation of having a first temperature regulating phase change material dispersed within the core member of the multi-component filament and a sheath member comprising a second temperature regulating material dispersed therein. As such, claim 24 and dependent claims 25-39 are found allowable over the prior art of Tanaka et al.

With regard to independent claim 40, Applicant amended claim 40 to recite a “non-encapsulated phase change material, which provides thermal regulation based on at least one of absorption and release of a latent heat at the transition temperature”. To reiterate, the relied upon prior art of Tanaka et al., teaches *microencapsulating* a temperature sensitive color changeable material and embedding said *microcapsules* into the core polymer of a conjugate filament (Abstract, figures 1-6 and Column 1, 59-63). In this instance, the Examiner interprets claim 1 to mean a phase change material, which

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provides thermal regulation (i.e., heat, cold, humidity insulation, etc.) rather than a phase change material which forms, changes or losses color by temperature change.

Additionally, the prior art of Tanaka et al., is silent with regard to providing thermal regulation based on at least one of absorption and release of a latent heat at the transition temperature. For these reasons, claim 40 and dependent claims 41-53 are found allowable over the prior art of Tanaka et al.

With regard to independent claim 54, Applicant amended said claim to include the limitation of a “non-encapsulated” phase change material, wherein the first polymeric material has a partial affinity for the “non-encapsulated” phase change material, such that the “non-encapsulated” phase change material forms a plurality of domains dispersed within the first polymeric material. To reiterate, the relied upon prior art of Tanaka et al., teaches *microencapsulating* a temperature sensitive color changeable material and embedding said *microcapsules* into the core polymer of a conjugate filament (Abstract, figures 1-6 and Column 1, 59-63). In this instance, the Examiner interprets claim 1 to mean a phase change material, which provides thermal regulation (i.e., heat, cold, humidity insulation, etc.) rather than a phase change material which forms, changes or losses color by temperature change. Additionally, the prior of Tanaka et al., is silent with regard to the limitations of a first polymeric material having a partial affinity for the “non-encapsulated phase change material as well as the formation of a plurality of domains dispersed within the first polymeric material. For these reasons, claim 54 and dependent claims 55-59 are found allowable over the prior art of Tanaka et al.

With regard to independent claim 60, Applicant amended said claim to include limitations from previously allowed claim 65. Specifically, claim 60 presently recites an

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island/sea multi-component fiber wherein at least one of the island members comprises a blend of an island polymeric material at least two different phase change materials. For these reasons, claim 60 and dependent claims 61-67 are found allowable over the prior art of Tanaka et al.

In summary, claims 1-67 are found allowable over the prior art made of record. An updated art search did not produce any new substantial for which to base a rejection and presently no motivation exists to combine references to form an obviousness type rejection.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lynda M Salvatore whose telephone number is 571-272-1482. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on 571-272-1482. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

September 10, 2004

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